

In the Claims

Please amend claims as indicated in the following claim listing without prejudice and with a full reservation of rights to pursue such cancelled claims in this application, a continuation application, and/or another application.

1. (Currently Amended) A method comprising:

determining at least one of a sensing function or a control function at a first mote of a second mote, the first and second mote administered by a first network administrator owned or controlled by a first business entity;~~and~~

creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining; and

exposing at least a part of the created one or more mote-addressed content indexes to an aggregator of (i) a first-set content index from a first set of motes administered by the first network administrator owned or controlled by the first business entity and (ii) a second-set content index from a second set of motes administered by a second network administrator owned or controlled by a second business entity.

2. (CURRENTLY AMENDED) The method of Claim 1, wherein said determining at least one of a sensing function or a control function at a first mote of a second mote further comprises:

accessing at least one device entity registry of the second mote by an index creation agent resident in the second mote, wherein the at least one device entity registry includes a network address of the second mote.

3. (PREVIOUSLY PRESENTED) The method of Claim 1, wherein said determining at least one of a sensing function or a control function at a first mote of a second mote further comprises:

communicating with at least one device-associated entity at the second mote.

4. (PREVIOUSLY AMENDED) The method of Claim 3, wherein said communicating with at least one device-associated entity at the second mote further comprises:

communicating with at least one of a light device entity, an electrical device entity, a pressure device entity, a temperature device entity, a volume device entity, an inertial device entity, or an antenna entity

5. (PREVIOUSLY AMENDED) The method of Claim 3, wherein said communicating with at least one device-associated entity at the second mote further comprises:

accessing at least one device identifier of a mote-addressed content index.

6. (PREVIOUSLY PRESENTED) The method of Claim 1, wherein said determining at least one of a sensing function or a control function at a first mote of a second mote further comprises:

communicating with at least one device entity using a common application protocol.

7. (PREVIOUSLY PRESENTED) The method of Claim 1, wherein said creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

creating at least one extensible index.

8. (ORIGINAL) The method of Claim 7, wherein said creating at least one extensible index further comprises:

creating the at least one extensible index in response to a type of content indexed.

9. (PREVIOUSLY PRESENTED) The method of Claim 1, wherein said creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

creating at the first mote at least one of a mote-addressed sensing index or a mote-addressed control index.

10. (PREVIOUSLY PRESENTED) The method of Claim 1, wherein said creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

creating at the first mote at least one of a mote-addressed routing/spatial index.

11. (CURRENTLY AMENDED) The method of Claim 1, wherein said creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

inserting at least one device identifier in the one or more mote-addressed content indexes and indicating at least one of: associated format of information of the second mote, a format of commands or availability of information of the second mote.

12. (CURRENTLY AMENDED) The method of Claim 1, wherein said creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

establishing an index-creating agent at the first mote;

determining a mote-network address of the second mote; and

associating at the first mote at least one of a mote-addressed sensing index, a mote-addressed control index, or a mote-addressed routing/spatial index with the mote-network address of the second mote.

13. (PREVIOUSLY PRESENTED) The method of Claim 1, wherein said creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

migrating an index creation agent to the first mote;

installing an index creation agent at the first mote; and

querying at least one device entity at the second mote with the index creation agent.

14. (PREVIOUSLY PRESENTED) The method of Claim 1, wherein said creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

- determining a mote-network address of the second mote;
- determining one or more types of control available from one or more devices at the second mote; and
- associating the one or more types of control available from one or more devices at the second mote with the mote-network address of the second mote.

15. (PREVIOUSLY PRESENTED) The method of Claim 1, wherein said creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

- determining a mote-network address of the second mote;
- determining one or more types of sensing available from one or more devices of the second mote; and
- associating the one or more types of sensing available from one or more devices of the second mote with the mote-network address of the second mote.

16. (PREVIOUSLY PRESENTED) The method of Claim 1, wherein said creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

- determining a mote-network address of the second mote;
- determining one or more types of spatial information related to devices of or proximate to the second mote; and
- associating the one or more types of spatial information related to devices of or proximate to the second mote with the mote-network address of the second mote.

17. (PREVIOUSLY PRESENTED) The method of Claim 1, wherein said creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

- determining a mote-network address of the second mote;
- determining one or more types of absolute or relative spatial information of other motes proximate to the second mote; and

associating at the first mote the one or more types of absolute or relative spatial information of other motes proximate to the second mote with the mote-network address of the second mote.

18. (PREVIOUSLY PRESENTED) The method of Claim 1, wherein said creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

associating one or more mote-appropriate routing addresses with the one or more mote-addressed content indexes.

19. (PREVIOUSLY PRESENTED) The method of Claim 1, wherein said creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

associating one or more mote-appropriate routing addresses with at least one directly mote-addressed content index.

20. (PREVIOUSLY PRESENTED) The method of Claim 1, wherein said creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

associating one or more mote-appropriate routing addresses with at least one indirectly mote-addressed content index.

21. (CURRENTLY AMENDED) A system comprising:

means for determining at least one of a sensing function or a control function of a second mote at a first mote, the first mote and the second mote administered by a first network administrator owned or controlled by a first business entity; and

an index creation agent including means for creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining, ~~wherein at least one of the means for determining or the means for creating includes hardware for at least one of determining or creating; and~~

means for reporting with hardware at least a part of the created mote-addressed content index created by the index creation agent to an aggregator of (i) a first-set content index from a first set of motes, including the first mote and the second mote, administered by the first network administrator owned or controlled by the first business entity and (ii) a second-set content index from a second set of motes administered by a second network administrator owned or controlled by a second business entity.

22. (PREVIOUSLY PRESENTED) The system of Claim 21, wherein said means for determining at least one of a sensing function or a control function of a second mote at a first mote further comprises:

accessing at least one device entity registry.

23. (PREVIOUSLY PRESENTED) The system of Claim 21, wherein said means for determining at least one of a sensing function or a control function of a second mote at a first mote further comprises:

means for communicating with at least one device-associated entity.

24. (PREVIOUSLY PRESENTED) The system of Claim 23, wherein said means for communicating with at least one device-associated entity further comprises:

means for communicating with at least one of a light device entity, an electrical device entity, a pressure device entity, a temperature device entity, a volume device entity, an inertial device entity, or an antenna entity.

25. (ORIGINAL) The system of Claim 23, wherein said means for communicating with at least one device-associated entity further comprises:

means for accessing at least one device identifier of a mote-addressed content index.

26. (PREVIOUSLY PRESENTED) The system of Claim 21, wherein said means for determining at least one of a sensing function or a control function of a second mote at a first mote further comprises:

means for communicating with at least one device entity at the second mote using a common application protocol.

27. (CURRENTLY AMENDED) The system of Claim 21, wherein said means for creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

means for creating at least one extensible index.

28. (ORIGINAL) The method of Claim 27, wherein said means for creating at least one extensible index further comprises:

means for creating the at least one extensible index in response to a type of content indexed.

29. (CURRENTLY AMENDED) The system of Claim 21, wherein said means for creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

means for creating at least one of a mote-addressed sensing index or a mote-addressed control index.

30. (CURRENTLY AMENDED) The system of Claim 21, wherein said means for creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

means for creating at least one of a mote-addressed routing/spatial index.

31. (CURRENTLY AMENDED) The system of Claim 21, wherein said means for creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

means for inserting at least one device identifier in the one or more mote-addressed content indexes.

32. (CURRENTLY AMENDED) The system of Claim 21, wherein said means for creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

- means for establishing an index-creating agent at the first mote;
- means for determining a mote-network address of the second mote; and
- means for associating at least one of a mote-addressed sensing index, a mote-addressed control index, or a mote-addressed routing/spatial index of the second mote with the mote-network address of the first mote.

33. (CURRENTLY AMENDED) The system of Claim 21, wherein said means for creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

- means for migrating the index creation agent to the first mote;
- means for installing the index creation agent at the first mote; and
- means for querying at least one device entity at the second mote ~~with the index creation agent~~.

34. (CURRENTLY AMENDED) The system of Claim 21, wherein said means for creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

- means for determining a mote-network address of the second mote;
- means for determining one or more types of control available from one or more devices of the second mote; and
- means for associating at the first mote in the one or more mote-addressed content indexes the one or more types of control available from one or more devices of the second mote with the mote-network address of the second mote.

35. (CURRENTLY AMENDED) The system of Claim 21, wherein said means for creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

- means for determining a mote-network address of the second mote;

means for determining one or more types of sensing available from one or more devices of the second mote; and

means for associating at the first mote in the one or more mote-addressed content indexes the one or more types of sensing available from one or more devices of the second mote with the mote-network address of the second mote.

36. (CURRENTLY AMENDED) The system of Claim 21, wherein said means for creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

means for determining a mote-network address of the second mote;

means for determining one or more types of spatial information related to devices of or proximate to the second mote; and

means for associating at the first mote the one or more types of spatial information related to devices of or proximate to the second mote with the mote-network address of the second mote.

37. (CURRENTLY AMENDED) The system of Claim 21, wherein said means for creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

means for determining a mote-network address of the second mote;

means for determining one or more types of absolute or relative spatial information of other motes proximate to the second mote; and

means for associating at the first mote the one or more types of absolute or relative spatial information of other motes proximate to the second mote with the mote-network address of the second mote.

38. (CURRENTLY AMENDED) The system of Claim 21, wherein said means for creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

means for associating one or more mote-appropriate routing addresses with the one or more mote-addressed content indexes.

39. (CURRENTLY AMENDED) The system of Claim 21, wherein said means for creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

means for associating one or more mote-appropriate routing addresses with at least one directly mote-addressed content index.

40. (CURRENTLY AMENDED) The system of Claim 21, wherein said means for creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining further comprises:

means for associating one or more mote-appropriate routing addresses with at least one indirectly mote-addressed content index.

41. (CURRENTLY AMENDED) A system comprising:

a first mote administered by a first network administrator owned or controlled by a first business entity;

at least one mote-appropriate device at a second mote administered by the first network administrator owned or controlled by a first business entity; and

at least one index creation agent and a reporting entity resident in the first mote, said at least one index creation agent configured to create at least one of a sensing index, a control index, or a routing/spatial index associated with the second mote, said reporting entity configured to report at least a part of the created mote-addressed sensing index, a control index, or a routing/spatial index associated to an aggregator of (i) a first-set content index from the first and second of motes administered by the first network administrator owned or controlled by the first business entity and (ii) a second-set sensing index, a control index, or a routing/spatial index from a second set of motes administered by a second network administrator owned or controlled by a second business entity.

42. (CURRENTLY AMENDED) The system of Claim 41, wherein said at least one of a sensing index, a control index, or a routing/spatial index associated with the second mote further comprises:

information indicating availability of or format of data from at least one of a light device, an electrical/magnetic device, a pressure device, a temperature device, a volume device, an inertial device, or an antenna at the second mote.

43. (Cancelled)

44. (PREVIOUSLY PRESENTED) The system of Claim 41, wherein the first mote comprises:

at least one of a processor, a memory, or a communications device formed from a substrate.

45. (CURRENTLY AMENDED) A system comprising:

a first mote administered by a first network administrator owned or controlled by a first business entity;

at least one mote-appropriate device at a second mote administered by the first network administrator owned or controlled by a first business entity; and

a mote-addressed content index at the first mote having at least one of a sensing function, a control function, or routing/spatial information of said at least one mote-appropriate device at the second mote, said a mote-addressed content index agent at the first mote configured to be reported to an aggregator of (i) a first-set content index from the first and second of motes administered by the first network administrator owned or controlled by the first business entity and (ii) a second-set content index from a second set of motes administered by a second network administrator owned or controlled by a second business entity.

46. (Currently Amended) The method of Claim 1, wherein said determining at least one of a sensing function or a control function at a first mote of a second mote further comprises:

determining availability of information from a sensing device coupled with the second mote, determining a format of information obtained from the sensing device, determining a format of commands to query the sensing device, or determining an output format of information from the queried sensing device.

47. (CURRENTLY AMENDED) The method of Claim 46, wherein creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining comprises:

~~updating~~ constructing the mote-addressed content index to indicate the availability of information from a sensing device ~~information~~, the format of information obtained from the device, the format of commands to query the device, or the output format of information of the queried device.

48. (Currently Amended) The method of Claim 4, wherein creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining comprises:

~~updating~~ constructing the mote-addressed content index to indicate the availability of the light device entity, the electrical device entity, the pressure device entity, the temperature device entity, the volume device entity, the inertial device entity, or the antenna entity.

49. (Original) The system of claim 21, wherein the means for creating one or more mote-addressed content indexes of the second mote at the first mote in response to said determining creates the one or more mote-addressed content indexes indicating information pertaining to at least one of a sensing function or a control function of the second mote.

50. (Original) The system of claim 49, wherein the information in the one or more mote-addressed content indexes pertaining to at least one of a sensing function or a control function indicates an identification of a sensing device of the second mote, and the availability of information from the sensing device, the format of information obtained from the sensing device, the format of commands to query the sensing device, or the output format of information from the queried sensing device.